

SOUTHEASTERN DISTRICT MAINLAND (ALASKA PENINSULA AREA)
SALMON MANAGEMENT PLAN, 2002

by

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ABSTRACT

The Southeastern District Mainland commercial salmon fishery takes place on the south side of the Alaska Peninsula in Stepovak, Balboa, and Beaver Bays. Depending primarily on the strength of Chignik sockeye salmon stocks, the fishery could begin in early June and lasts through July 25. This document describes how the fishery will be managed, the requirements of industry to participate in the fishery, and how to contact and relay information to the department. Historical harvests for the Southeastern District Mainland fishery are presented as well as the 2002 season harvest projections. This document is intended as a guide for commercial salmon fishers, buyers, and tenders. Information regarding commercial salmon openings should be received from the department prior to fishing.

INTRODUCTION

This document is intended to provide commercial fishers and processors with information the Alaska Department of Fish and Game (ADF&G) will use to manage the Southeastern District Mainland (SEDM) commercial salmon fishery.

DESCRIPTION OF FISHERY

The SEDM fishery takes place on the south side of the Alaska Peninsula (Figure 1). Included in this fishery are the Beaver Bay, Balboa Bay, Southwest Stepovak, Northwest Stepovak, East Stepovak, and Stepovak Flats Sections (Figure 2). The SEDM is bordered by the Chignik Management Area (CMA) to the east and the South Central District of the South Peninsula to the west. The SEDM fishery is conducted according to a management plan originally established by the Alaska Board of Fisheries (BOF) in 1985, updated in 1991 and 1998, and most recently in 2001, with no major changes being made in 2001 (Table 1; Appendix A). Excluding the Northwest Stepovak Section (NWSS) beginning July 1, the fishery is allocated 6.0% of the total Chignik bound sockeye salmon harvest through July 25¹ while providing for specific biological and allocative requirements in the CMA. After July 25, the SEDM is managed under 5 AAC 09.366. POST JUNE SALMON MANAGEMENT PLAN FOR THE SOUTH PENINSULA.

Legal Gear Types

In the SEDM, set gillnet gear is the only legal gear type allowed through midnight July 10. Beginning July 11, set gillnet, purse seine, and hand purse seine gear types are allowed.

Fishing Periods

The SEDM fishery is regulated independently of other fisheries occurring in the Alaska Peninsula Management Area. The ADF&G will attempt to have fishing periods in the Northwest Stepovak and Stepovak Flats Sections concurrent with fishing periods in the remainder of the SEDM area to avoid concentrating fishing gear. During July 1-25, as required by the BOF mandated management plan, the fishing schedule for the NWSS, excluding Orzinski Bay, will not exceed four days during a seven-day period. The maximum allowable number of consecutive fishing days is two. For the purposes of this fishing schedule, a “day” is considered one 24-hour period.

All fishing periods will be opened by emergency orders. A minimum of 24 hours advance notice will be given prior to the first commercial fishing period of the season. At least 12 hours notice

¹ The total Chignik sockeye salmon harvest is calculated by adding 100% of those sockeye salmon caught within the CMA, 90% of the sockeye salmon caught in the Cape Igvak Section of the Kodiak Management Area (KMA) through July 25, and 80% of the sockeye salmon caught in the SEDM fishery through July 25, excluding 100% of the sockeye salmon caught in the NWSS from July 1 through July 25.

will be given prior to the opening of any other fishing period, unless the announcement extends a current fishing period.

Harvest Reporting

Buyers must report daily to the ADF&G office in Sand Point, as required by 5AAC 39.130(a)(3). Salmon harvest reports, including number and pounds of fish by species and number of deliveries by gear type, must be received by 9:00 AM on the day following landings. Earlier reports are appreciated. Buyers may phone or fax their reports to the Sand Point office (phone: 383-2066, fax: 383-2606). Contact may also be made over VHF 6 or 73, or on SSB radio frequency 3.320 MHz.

Fish tickets must be received in the ADF&G office in Sand Point (address below) within seven days of the purchase date, unless other arrangements have been made with ADF&G. Mail fish tickets to: ADF&G, P.O. Box 129, Sand Point, AK, 99661.

Inseason Announcements

Inseason announcements will be broadcast on VHF radio channels 6 and 73, and SSB radio frequency 3.230 MHz. Information may also be obtained over the ADF&G 24-hour message line in Sand Point at 383-2334 (383-ADFG).

2002 MANAGEMENT PLAN

Under the current SEDM Management Plan (5 AAC 09.360; Appendix A):

1. The percentage of sockeye salmon allocated to the SEDM fishery by the BOF is 6.0% of the total number of sockeye salmon considered to be Chignik bound, harvested through July 25. The BOF established this percentage during the January 1996 meeting in an attempt to maintain traditional harvest levels of Chignik bound sockeye salmon in the SEDM fishery and to compensate for an increased area managed for local Orzinski Lake sockeye salmon.
2. Prior to July 1, the entire SEDM will be managed based on the strength of the Chignik sockeye salmon runs and 80% of the sockeye salmon caught in the SEDM will be considered Chignik bound salmon.
3. Beginning July 1, sockeye salmon caught in the NWSS will be considered 100% local fish and not counted toward the Chignik allocation (Figures 2 and 3). Fishing time in the NWSS after June 30 may not be more than four days within a seven-day period with no more than 48 hours continuous fishing during a seven-day period. During the January 2001 meeting, the BOF clarified that “day” in this context referred to a 24-hour period.

4. The Stepovak Flats Section will be managed for chum salmon returning to Stepovak Flats streams for the entire season, however, 80% of the sockeye salmon caught in this section through July 25 will be considered Chignik bound fish (Figure 2).
5. In 1996, the BOF established a closed waters area encompassing Kupreanof Point (Figure 4; 5 AAC 09.350 (37)) from July 6 through August 31. The ADF&G may extend the Kupreanof Point closed waters area through the end of the season by emergency order. The Kupreanof Point closed waters extension will remain in effect until:
 - (A) the ADF&G determines that the coho salmon subsistence needs of the residents of Perryville have been satisfied, and
 - (B) the Western and Perryville Districts of the CMA open to commercial salmon fishing after August 31. Please note: in the recent past, these districts have remained closed past August 20 because of concerns for local coho salmon and no change is anticipated for the 2002 season.

Harvest Scenarios

The respective 2002 Chignik early and late run forecasted harvest estimates are 630,000 and 840,000 sockeye salmon. The harvestable surplus in Chignik is expected to exceed 600,000 sockeye salmon through July 25. Therefore, the SEDM fishery could potentially begin when the department determines that the runs are as strong as expected.

If the Chignik early run is determined to be as strong as predicted, the ADF&G will manage the SEDM fishery so that the sockeye salmon harvest (excluding the post June 30 NWSS sockeye harvest) will approach as near as possible 6.0% of the total Chignik bound sockeye salmon catch through July 25.

If the Chignik early run is weak, the SEDM fishery (excluding Orzinski Bay after June 30) will be curtailed in order to allow a minimum harvest in the CMA of 300,000 sockeye salmon through July 8.

From June 26 through July 8, the strength of the late run of Chignik sockeye salmon cannot be evaluated due to mixing of early and late run stocks. During this period the department may close or restrict commercial salmon fishing in the SEDM, excluding Orzinski Bay beginning July 1, until the strength of the second run can be determined. Beginning July 1, if the Chignik harvest is projected to reach 300,000 sockeye salmon by July 8 and Chignik escapement is on track, then fishing time in the NWSS is based on local stocks and 100% of the sockeye caught in the NWSS are considered local stocks.

After July 8, the SEDM fishery, excluding the NWSS, will be managed on the strength of the Chignik late run and on the catch of Chignik bound sockeye salmon through July 25. If the late-run escapement goals are being met and the total Chignik harvest is at least 300,000 sockeye salmon, the SEDM may open to commercial salmon fishing. The ADF&G will manage the fishery so that the number of sockeye salmon harvested in the CMA from both runs combined will be at least

600,000 fish and the harvest in the SEDM (excluding the post June 30 NWSS sockeye salmon harvest) will approach as near as possible to 6.0% of the total Chignik bound sockeye salmon harvest through July 25.

Scenario (Chignik early and late runs forecast to be strong)

Chignik early run comes in as expected

Chignik early run falls short

Regulation

Fishing in SEDM may be allowed during June prior to the overlap period (June 26-July 8) and managed for 6.0% of the total Chignik bound sockeye salmon through July 25. NWSS will be managed on Orzinski stocks after June 30 with no more than 4 days in any seven-day period and no more than two consecutive fishing days.

Fishing in SEDM (excluding Orzinski Bay beginning July 1) will be curtailed until the Chignik harvest reaches 300,000 sockeye salmon through July 8. After July 8, if at least 300,000 sockeye salmon have been harvested in the CMA and if Chignik escapement goals are being met, the SEDM will be managed for 6.0% of the total Chignik bound sockeye salmon and so that the Chignik sockeye salmon harvest will be at least 600,000 through July 25.

Chignik Lakes Sockeye Salmon Forecast and SEDM Allocation

The June 1 to July 25 SEDM sockeye salmon commercial harvest can be estimated based on: 1) the forecasted return of Chignik bound sockeye salmon (Appendix B); 2) the percent of the Chignik runs normally harvested during this time period; and 3) the regulatory allocation to SEDM fisheries.

The 2002 CMA forecast calls for an early-run (Black Lake) harvest of 630,000 sockeye and a late run (Chignik Lake) harvest of 840,000 sockeye salmon (Appendix B). Historically, approximately 100% of the early-run Chignik bound sockeye salmon harvest and approximately 75% of the late-run Chignik bound sockeye salmon harvest has occurred prior to July 26. Therefore, if 100% and 75% of the 2002 Chignik early and late runs' respective harvests occur prior to July 26, the SEDM

(excluding the NWSS harvest beginning July 1) 6.0% allocation converts into a projected harvest of approximately 75,600 sockeye through July 25 that are considered Chignik bound (94,500 total sockeye harvest through July 25).

The 2002 SEDM projected harvest of 75,600 Chignik bound sockeye salmon (80% of total sockeye salmon harvest forecast) through July 25 is below the 1992-2001 average harvest of 97,531 Chignik bound sockeye salmon (Table 2).

Harvest Goals

The SEDM fishery will be managed according to the regulatory management plan, 5 AAC 09.360 (ADF&G 2001; Appendix A). No attempt will be made to allow equal fishing time with Chignik. The goal is to achieve the 6.0% allocation level through July 25 after the conditions of the management plan have been satisfied.

An interim management goal of 6.0% of the total Chignik bound sockeye salmon harvest as of midnight July 10 is desired to achieve historical harvest levels between set gillnet and purse seine permit holders (purse seine gear is legal in the fishery beginning July 11). To meet the interim and final goals, the percentage may fluctuate above or below 6.0% prior to July 11 and July 25.

Because of the restrictions placed upon the SEDM fishery to protect the Chignik runs, it may not be possible to achieve a 6.0% allocation level, even if escapement goals are met and the minimum catch level of 600,000 sockeye salmon at Chignik is exceeded.

Local Stocks

For the purposes of this plan, local runs include only those salmon in the waters:

- (1) beginning July 1, in the Northwest Stepovak Section described in 5 AAC 09.200(f)(5); and
- (2) in the Stepovak Flats Section as described in 5 AAC 09.200(f)(6).

Northwest Stepovak Section

Beginning July 1, all sockeye salmon caught in the Northwest Stepovak Section are considered to be 100% Orzinski Lake bound or local stock.

A weir was used to count salmon escapements into Orzinski Lake between 1935 and 1941, and again from 1990 through the present (Witteveen et al. 2001). Based on aerial surveys and weir counts, the ADF&G has developed interim sockeye salmon escapement requirements for Orzinski Lake by time periods (Table 3). The department will attempt to achieve the upper ends of the interim escapement goal ranges. The Orzinski Lake sockeye salmon escapement goal range for the entire season is 15,000-20,000 adult salmon. In 2001, the total estimated sockeye salmon escapement was about 21,800 salmon. The ADF&G intends to operate a weir on the Orzinski Lake system in 2002.

Sockeye salmon usually begin entering the lake in mid June and normally 50% of the annual escapement has been achieved by the second week of July. Generally, the Orzinski Lake sockeye salmon escapement is achieved by the first week of August.

If the interim sockeye salmon escapement goals into Orzinski Lake are not being met, the NWSS may be closed until escapement falls within the appropriate escapement goal range, or until management of the area shifts to a directed fishery for local pink salmon stocks in early August.

Stepovak Flats Section

Commercial salmon fishing in the Stepovak Flats Section is managed for chum salmon returning to Stepovak Flats systems. Through July 25, 80% of the sockeye salmon harvested in this section are considered Chignik bound fish and are included in the 6.0% allocation criteria stated in the SEDM management plan. After July 28, the entire Stepovak Flats Section and the northern portion of the East Stepovak Section, as described in 5 AAC 09.350 (36)(B), are closed to commercial salmon fishing to protect schooling chum salmon.

After July 25, the entire SEDM will be managed on the basis of local stocks, as described in 5 AAC 09.360 (h), and 5 AAC 09.366 (g) (1)-(2) and (h) (ADF&G 2001).

Aircraft

As specified in 5 AAC 09.378, a person may not use or employ an aircraft to locate salmon for the commercial taking of salmon or to direct commercial fishing operations in the Alaska Peninsula Area one hour before, during and one hour after a commercial salmon fishing period.

LITERATURE CITED

- ADF&G (Alaska Department of Fish and Game). 2001. 2001-2004 Bristol Bay, Alaska Peninsula, Atka-Amlia, and Aleutian Islands Areas commercial fishing regulations, 2001 edition. Alaska Department of Fish and Game, Division of Commercial Fisheries, Juneau.
- Witteveen, M.J., A.R. Shaul, J.J. Dinnocenzo, and D.E. Connolly. 2001. South Peninsula Annual Salmon Management Report, 2000. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K01-24, Kodiak

Table 1. Southeastern District Mainland commercial salmon fishery regulatory history, pre-1974 to 2002.

Year	Management Plan
Pre-1974	Set weekly fishing periods, usually 5 days per week
1974-77	Day for day fishing with Chignik
1978	3 days per week, seine gear prohibited before July 10
1979-84	5 days per week, 60,000 sockeye salmon catch ceiling (until Chignik catches 1 million) After 7/10 entire SEDM managed on local stocks
1985-91	Management plan adopted by the BOF. Assures minimum harvest in Chignik of 600,000, restricts fishing in SEDM during overlap period (6/26-7/8), allows 6% (6.2%-1985-87) allocation of total Chignik sockeye harvest through 7/25, permits openings in Stepovak Flats and Northwest Stepovak Sections based on local runs
1992-95	Area managed on local sockeye runs reduced to include only Orzinski Bay (Stepovak Flats Section not effected), increased allocation of Chignik sockeye harvest from 6% to 7%
1996-present	Area managed on local sockeye runs increased to include the Northwest Stepovak Section beginning July 1, reduced allocation of Chignik sockeye harvest from 7% to 6%
1998-Present	Beginning July 1, Orzinski Bay will be managed entirely on local sockeye stocks. From July 1 through July 25, if fishing is permitted in the Northwest Stepovak Section, openings may not exceed four days during a seven-day period with no more than two consecutive fishing days. (See Appendix A for further details.) Remainder of the SEDM sockeye harvest allocated as 80% Chignik bound fish.

Table 2. Southeastern District Mainland commercial fishing effort and assignment of sockeye salmon harvests June 1-July 25, 1985-2001.

Year	Effort				Northwest Stepovak			SEDM minus Northwest Stepovak		SEDM		Total Catch
	Gillnet		Seine		Total	"Local"	"Non-local"	"Local"	"Non-local"	"Local"	"Non-local"	
	Permits	Landings	Permits	Landings								
1985 ^a	49	367	23	51	16,681	16,681	0	12,855	51,421	29,536	51,421	80,957
1986	42	616	18	29	59,025	59,025	0	29,501	118,006	88,526	118,006	206,532
1987	53	528	6	9	61,287	61,287	0	36,722	146,886	98,009	146,886	244,895
1988	41	300	16	45	57,010	57,010	0	4,830	19,320	61,840	19,320	81,160
1989	42	248	25	54	83,618	83,618	0	1,121	4,485	84,739	4,485	89,224
1990	46	277	69	131	3,279	3,279	0	32,609	128,599	35,888	128,599	164,487
1991	59	747	39	71	98,834	98,834	0	38,179	152,714	137,013	152,714	289,727
1992 ^b	59	650	6	14	113,428	101,198	12,232	20,403	81,613	121,599	93,845	215,444
1993	64	763	53	82	73,747	54,955	18,792	27,436	109,744	82,391	128,536	210,927
1994	56	678	0	0	89,522	52,880	36,642	26,427	105,708	79,307	142,350	221,657
1995	58	718	26	30	62,598	51,723	10,875	19,357	77,426	71,079	88,301	159,381
1996 ^c	64	1,164	25	46	137,925	127,645	10,280	29,230	116,921	156,875	127,201	284,076
1997	57	1,173	12	23	304,865	304,865	0	0	0	304,865	0	304,865
1998	45	340	18	23	33,515	33,515	0	16,723	66,893	50,238	66,893	117,131
1999	63	649	27	30	32,884	6,577	26,307	36,828	147,313	43,405	173,621	217,026
2000	64	1,163	26	31	89,857	76,500	13,357	22,516	90,062	99,016	103,419	202,435
2001	51	551	16	20	42,681	42,681	0	12,785	51,141	55,466	51,141	106,607
Average:												
1985-91	47	440	28	56	54,248	54,248	0	22,260	88,776	76,507	88,776	165,283
1992-95	59	702	21	32	84,824	65,189	19,635	23,406	93,623	88,594	113,258	201,852
1996-97	61	1,169	19	35	221,395	216,255	5,140	14,615	58,461	230,870	63,601	294,471
1998-2000	57	717	24	28	52,085	38,864	13,221	25,356	101,423	64,220	114,644	178,864
1992-2001	58	785	21	30	98,102	85,254	12,849	21,171	84,682	106,424	97,531	203,955

^a From 1985 through 1991, the Chignik contribution was 80% of the sockeye salmon harvested in Beaver Bay, Balboa Bay, Southwest Stepovak, Stepovak Flats, and East Stepovak Sections.

^b From 1992 through 1995, the Chignik contribution was 80% of the sockeye salmon harvested in the Southeastern District Mainland fishery, except Orzinski Bay where 100% of the sockeye salmon are considered local production.

^c In 1996 through 2000, the Chignik contribution was 80% of the sockeye harvested in Southeastern District Mainland fishery, except in the Northwest Stepovak Section where beginning July 1 100% of the sockeye salmon are considered local.

Table 3. Sockeye salmon interim escapement requirements for Orzinsk Lake.

Time Period Ending Date	Escapement Goal for period ending	Cumulative Escapement Goals
1-Jul	1,500-2,000	1,500-2,000
9-Jul	2,250-3,000	3,750-5,000
16-Jul	3,750-5,000	7,500-10,000
23-Jul	3,750-5,000	11,250-15,000
7-Aug	3,750-5,000	15,000-20,000
Season Total		15,000-20,000

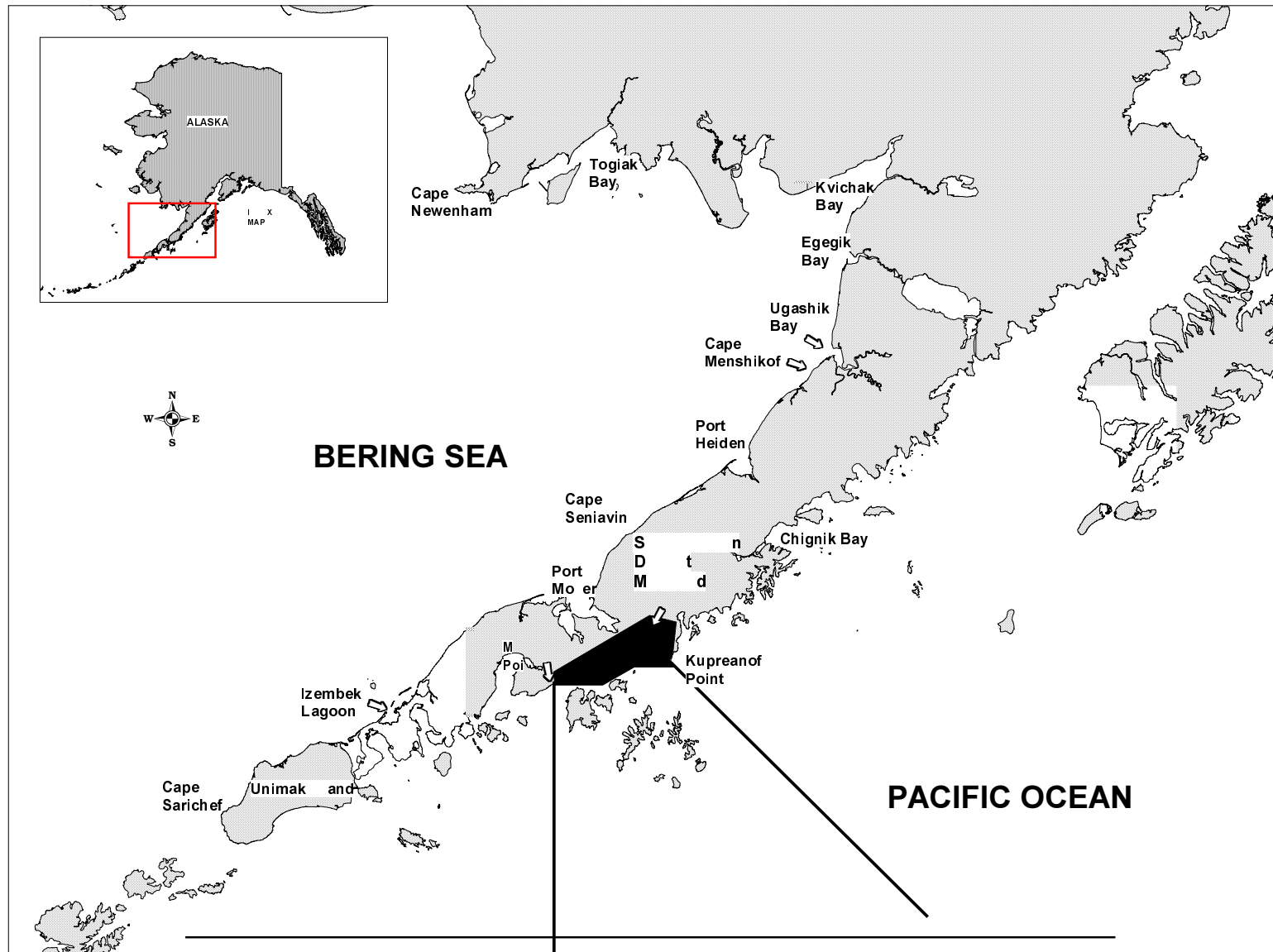


Figure 1. Map of the Alaska Peninsula Management Area with the Southeastern District Mainland area defined.

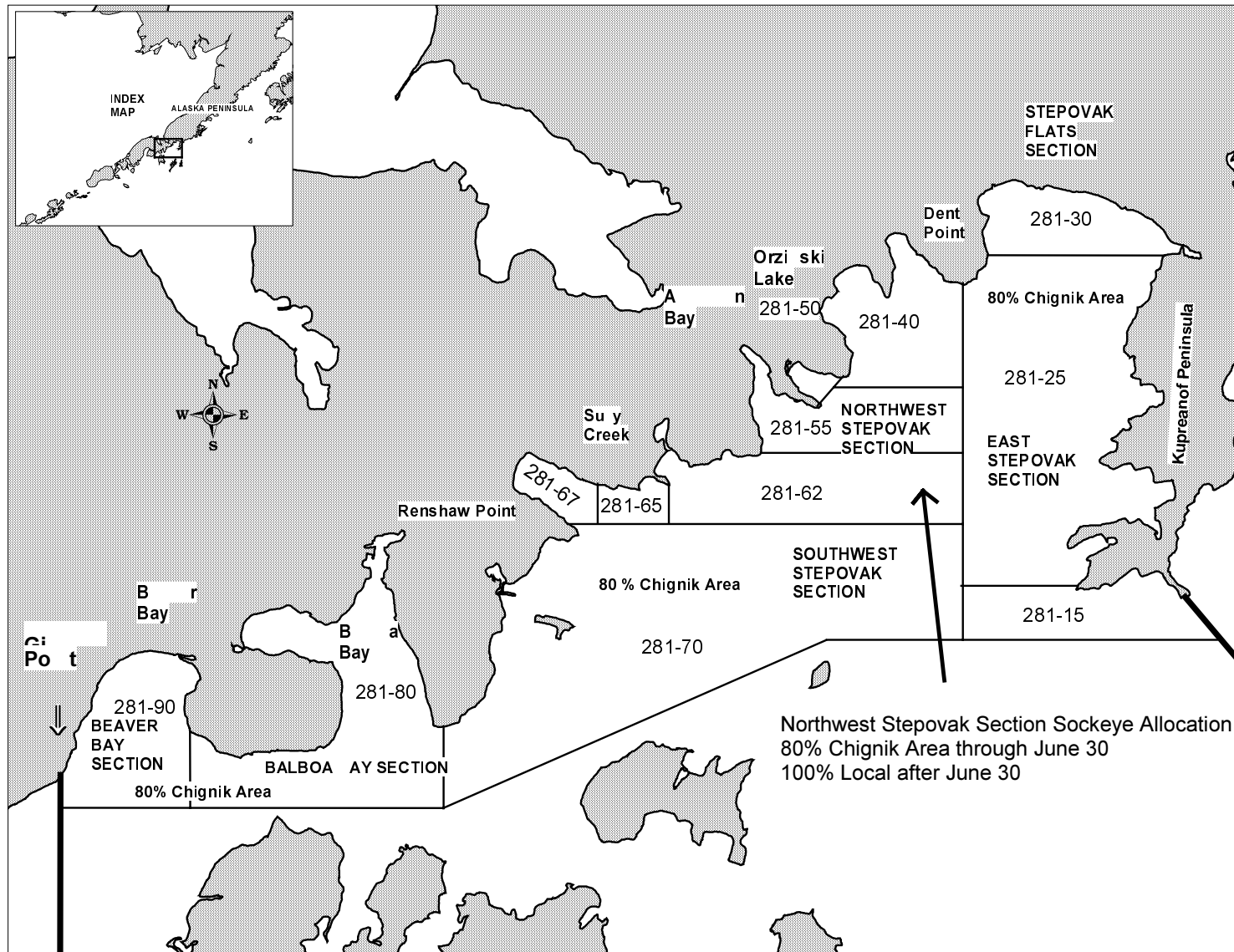


Figure 2. Map of the Southeastern District Mainland fishery from Kupreanof Point to McGinty Point with the salmon sections defined.

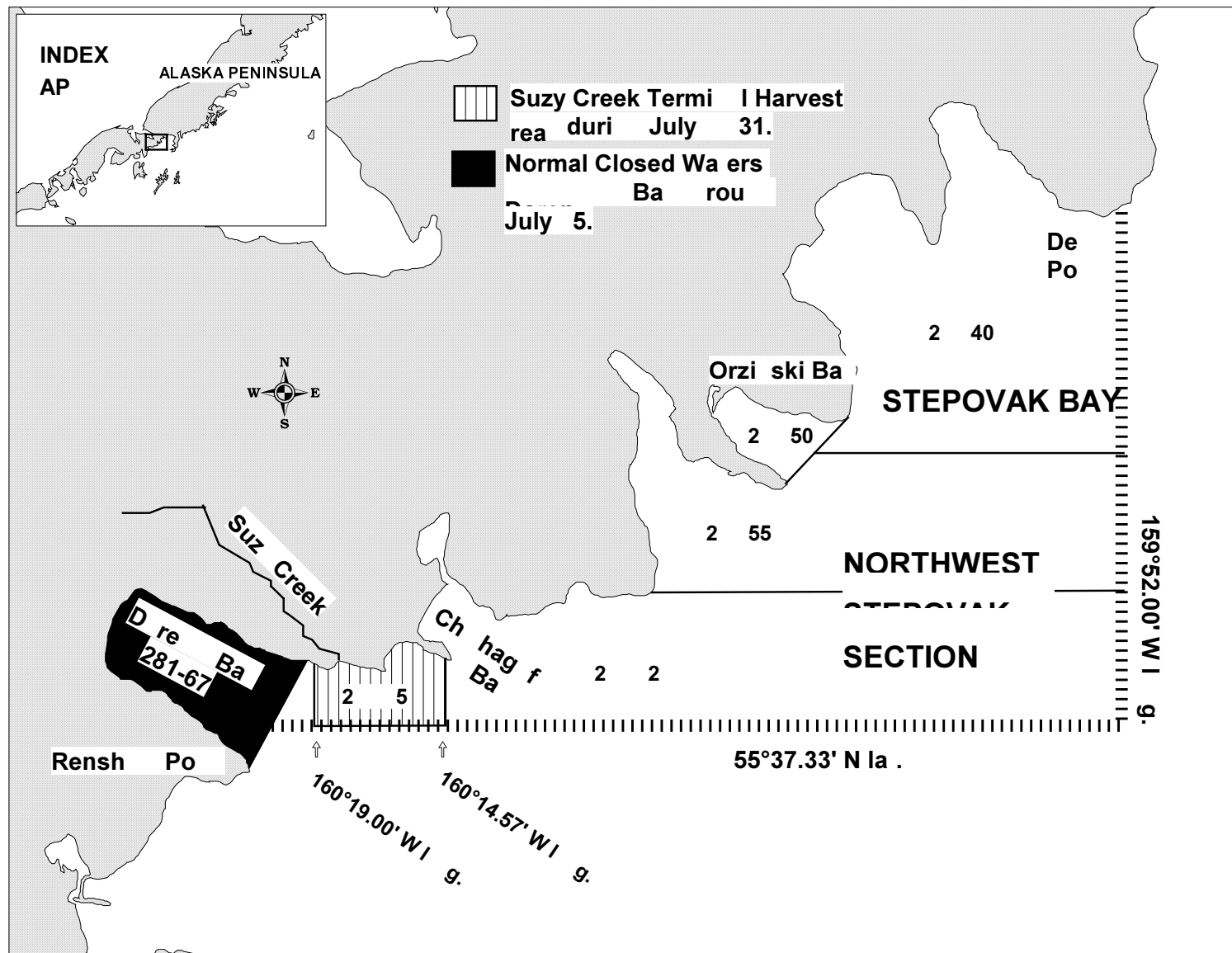


Figure 3. Map of the Northwest Stepovak Section, with Dorenoi Bay closed waters through July 25, and Suzy Creek Post June terminal harvest area highlighted.

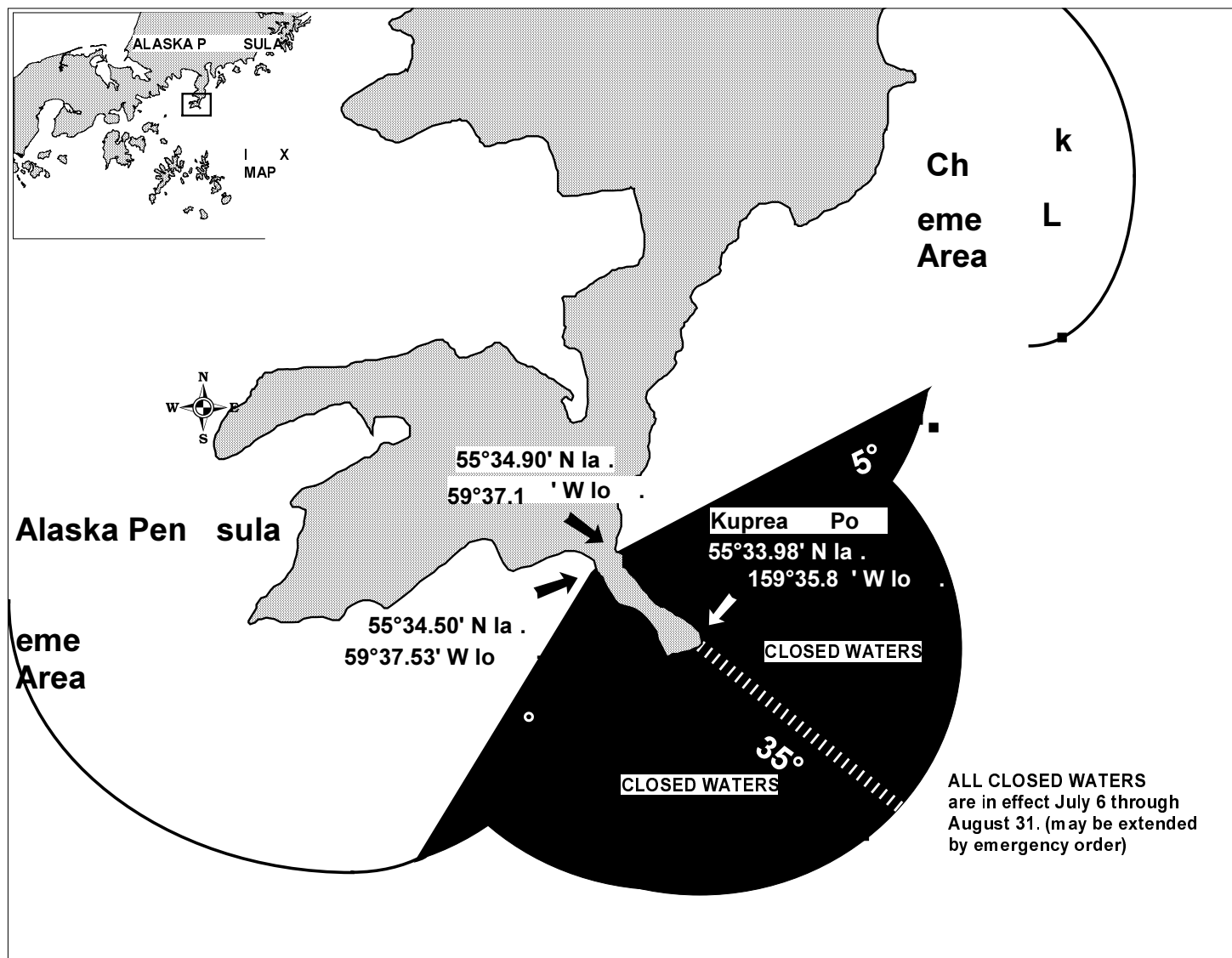


Figure 4. Map of Kupreanof Point area with closed waters defined.

APPENDIX

5 AAC 09.360. SOUTHEASTERN DISTRICT MAINLAND SALMON MANAGEMENT PLAN

(a) This plan pertains to the management of the interception of Chignik River sockeye salmon caught in the Southeastern District Mainland fishery: East Stepovak, Stepovak Flats, Northwest Stepovak, Southwest Stepovak, Balboa Bay, and Beaver Bay Sections. Before July 11, only set gill net gear may be used in these sections. For the purpose of this plan, local runs include only those salmon in the waters:

- 1) beginning July 1, in the Northwest Stepovak Section described 5 AAC 09.200(f)(5):
- 2) the Stepovak Flats Section as described in 5 AAC 09.200(f)(6).

(b) In years when a harvestable surplus for the first (Black Lake) and second (Chignik Lake) runs of Chignik River system sockeye salmon is expected to be less than 600,000, no commercial salmon fishery is allowed in the East Stepovak, Southwest Stepovak, Balboa Bay, and Beaver Bay Sections, and in the Northwest Stepovak Section, as described in 5 AAC 09.200(f)(5) excluding Orzinski Bay of the Northwest Stepovak Section north of a line from Elephant Point at 55°41.92' N lat., 160°03.2' W long., to Waterfall Point at 55°43.18' N lat., 160°01.13' W long., until a harvest of 300,000 sockeye salmon is achieved in the Chignik Area, as described in 5 AAC 15.100. After July 8, if at least 300,000 sockeye salmon have been harvested in the Chignik Area, and if escapement goals are being met, the department shall manage the fishery so that the number of sockeye salmon harvested in the Chignik Area will be at least 600,000 and the number of sockeye salmon harvested in the East Stepovak, Stepovak Flats, Southwest Stepovak, Balboa Bay, and Beaver Bay Sections and before July 1 in the Northwest Stepovak Section, approaches as near as possible six percent of the total Chignik sockeye salmon catch.

(c) In years when a harvestable surplus beyond escapement goals for the first and second runs of Chignik River system sockeye salmon is expected to be more than 600,000 but the first run fails to develop as predicted and it is determined that a total sockeye salmon harvest in the Chignik Area of 600,000 or more may not be achieved, the commercial salmon fishery in the East Stepovak, Stepovak Flats, Southwest Stepovak, Balboa Bay, and Beaver Bay Sections, and in the Northwest Stepovak Section, excluding Orzinski Bay of the Northwest Stepovak Section north of a line from Elephant Point at 55°41.92' N lat., 160°03.20' W long., to Waterfall Point at 55°43.18' N lat., 160°01.13' W long., shall be curtailed in order to allow a harvest in the Chignik Area of 300,000 sockeye salmon through July 8 if that number of fish are determined to be surplus to the escapement goals of the Chignik River system. After July 8, if at least 300,000 sockeye salmon have been harvested in the Chignik Area, and if escapement goals are being met, the department shall manage the fishery so that the number of sockeye salmon harvested in the Chignik Area is at least 600,000 and the number of sockeye salmon harvested in the East Stepovak, Stepovak Flats, Southwest Stepovak, Balboa Bay, and Beaver Bay Sections, and before July 1 in the Northwest Stepovak Section, approaches as near as possible six percent of the total Chignik sockeye salmon catch.

-Continued-

(d) In years when a harvestable surplus beyond the escapement goals for the first and second runs of Chignik River system sockeye salmon is expected to be more than 600,000 and the department determines that the runs are as strong as expected, the department shall manage the fishery so that the number of sockeye salmon taken in the East Stepovak, Stepovak Flats, Southwest Stepovak, Balboa Bay, and Beaver Bay Sections, and before July 1 in the Northwest Stepovak Section, approaches as near as possible six percent of the total Chignik sockeye salmon catch.

(e) The fishing schedule in the Northwest Stepovak Section, excluding the waters of Orzinski Bay located north of a line from Elephant Point at 55°41.92' N lat., 160°03.20' W long., to Waterfall Point at 55°43.18' N lat., 160°01.13' W long., will not exceed four days during a seven-day period. The maximum number of consecutive fishing days during a seven-day period is two.

(f) The estimate of sockeye salmon destined for the Chignik River has been determined to be 80 percent of the sockeye salmon harvested in the East Stepovak, Stepovak Flats, Southwest Stepovak, Balboa Bay, and Beaver Bay Sections, and before July 1 in the Northwest Stepovak Section. The sockeye salmon taken in the Northwest Stepovak Section beginning July 1 are considered to be 100% destined for Orzinski Bay.

(g) The total Chignik sockeye salmon catch constitutes those sockeye salmon caught within the Chignik Area, plus 80 percent of the sockeye salmon caught in the East Stepovak, Stepovak Flats, Southwest Stepovak, Balboa Bay, and Beaver Bay Sections, and before July 1 in the Northwest Stepovak Section, as described in 5 AAC 09.200(f), plus 90 percent of the sockeye salmon caught in the Cape Igvak Section of the Kodiak Area. The percentage of Chignik sockeye salmon may be permitted to fluctuate above or below six percent at any time before July 25.

(h) This allocation method is in effect through July 25. The first fishing period of the commercial salmon fishing season in the East Stepovak, Southwest Stepovak, Balboa Bay, and Beaver Bay Sections, and before July 1 in the Northwest Stepovak Section, may not occur before the first fishing period of the commercial salmon fishing season in the Chignik Area. After July 25, commercial salmon fishing in the entire Southeastern District Mainland area may be allowed for local stocks.

(i) During the period from approximately June 26 through July 8, the strength of the second run of the Chignik River system sockeye salmon cannot be evaluated. In order to prevent over harvest of the second run, the department may disallow or severely restrict commercial salmon fishing in the East Stepovak, Stepovak Flats, Southwest Stepovak, Balboa Bay, and Beaver Bay Sections during this period and from June 26 through June 30 in the Northwest Stepovak Section.

(j) The commissioner shall open all commercial salmon fishing periods by emergency order. Before commencement of the first commercial salmon fishing period of the season, the department shall give at least 24 hours' notice. For subsequent fishing periods, the department shall give at least 12 hours' notice. If an existing fishing period is extended, the department shall give notice of the extension as soon as possible before the end of the existing fishing period.

Appendix B. Chignik Management Area preliminary sockeye salmon forecast.

Forecast Area: Chignik
Species: Sockeye Salmon

Preliminary Forecast of the 2002 Run:		Forecast Estimate (thousands)	Forecast Range (thousands)
<u>Total Production:</u>			
<u>Early Run (Black Lake)</u>	Total Run Estimate	1,030	618-1,430
	Escapement Goal	400	350-400
	Harvest Estimate	630	
<u>Late Run (Chignik Lake)</u>	Total Run Estimate	1,090	505-1,670
	Escapement Goal	250	200-250
	Harvest Estimate	840	
<u>Total Chignik System</u>	Total Run Estimate	2,120	1,430-2,800
	Escapement Goal	650	550-650
	Harvest Estimate	1,470	

These figures include harvests of Chignik-bound sockeye salmon by the Southeastern District Mainland and the Cape Igvak fisheries; approximately 1,210 thousand sockeye salmon are projected to be harvested in the Chignik Management Area.

Forecast Methods

The forecasts for Black and Chignik Lakes 2002 runs were based on simple linear regressions between sibling relationships, between escapements and subsequent year-class returns, or median estimators of age class returns for brood years since 1977. In constructing and evaluating each of the regression models, standard regression diagnostic procedures were used. Regression models were only used in cases where the slope of the regression was significantly different from zero (P-value <0.25). The Black Lake age 0.3, 1.2, 1.3 and 2.3 components of the run and Chignik Lake age 1.2, 2.2, and 2.4 components of the run were estimated based on the abundance of their sibling returns in 2001. The Chignik Lake age 1.3 and 2.3 returns were forecasted based upon regression relationships with the abundance of spawners in their parent years. Following non-significant regression results, the median brood year return by age class was used to estimate all other age class components of the run. When regression relationships were used, the variance of the estimate was calculated from the error structure of the regression. When the median return by age class was used, the variances calculated from the mean distributions, by age, were applied to the estimate. The variances associated with individual estimates were summed to estimate 80% confidence intervals for each individual run and for the total Chignik system run.

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Forecast Discussion

The 2002 sockeye salmon run to the Chignik River is expected to be 2.12 million fish, which is approximately 800 thousand fish less than the run of 2001. The early run is expected to be approximately 280 thousand fish fewer than the early run in 2001. The late run is expected to be approximately 517 thousand fish fewer than the 2001 run. The 2002 sockeye salmon run to Chignik is expected to be approximately 726 thousand fish less than the recent 10-year average return.

Approximately 92% of the 2002 early run was forecasted using sibling relationships. The 2001 early run, using similar methods, was under forecasted by approximately 23%. The majority of the 2001 late run was forecasted using median values because there was no significant sibling relationships apparent for the major age class of the late run (age 2.3). The 2001 late run was under forecasted by approximately 43%. The age 1.3 sibling relationship was not significant for the 2002 late run forecast. Regression relationships were implemented, however, between parent escapement and the age 1.3 and 2.3 returns for the late run for the 2002 forecast. Available smolt data were analyzed and although significant regression relationships were not found, the abundance of the smolt that emigrated in 1999 was average to above average. The majority of these fish will return in 2002 as 3-ocean fish. The smolt that emigrated in 1999, however, were large and were extremely healthy, which may indicate better than average marine survival. Both runs were also forecasted together as one run as an alternative method, and the resultant 2002 forecast was approximately 246 thousand sockeye salmon higher than when both runs were forecasted separately and then combined. This method more accurately forecasted the total 2001 run (6% under forecast) than each run forecasted separately and then combined. It was not used to forecast the 2002 run, however, because of the loss of information of the relative magnitude of the two runs.

The tendency to under forecast using the current methods, available smolt data, and the larger combined total Chignik River system forecast suggests the actual return may be between the point estimate and the higher 80% confidence interval. Given these ancillary data, our confidence in this forecast is fair.

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